

Operator Training

Interstitial Monitoring

D H E C



PROMOTE



PROTECT



PROSPER

South Carolina Department of Health
and Environmental Control

Release Detection

- Means watching the tank system on a routine basis so that if a release occurs, it will be discovered as quickly as possible
- All tanks are required to have release detection except tanks that serve as emergency generators

Release Detection Requirement

Must use a method and/or equipment capable of finding a leak of 0.2 gallons per hour (gph) within 30 days

How much is 0.2 gallons
per hour??

Release Detection



A leak of 0.2 gallons per hour is the same as losing 2 cola cans worth of fuel in an hour

Release Detection

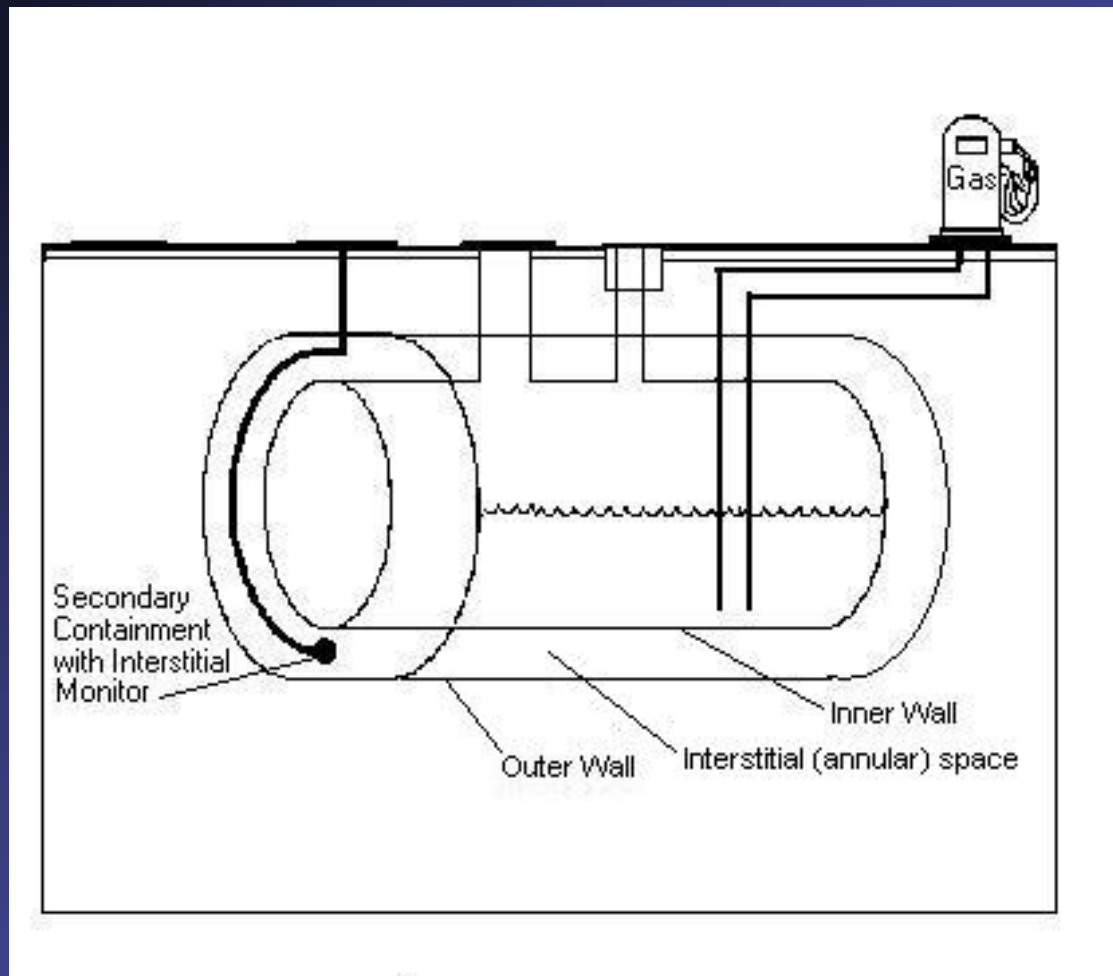
Release detection requires that we look for a 0.2 gph leak at least once every month...

$$0.2 \text{ gph} \times 24 \text{ hours} \times 30 \text{ days} = 144 \text{ gallons per month}$$

Interstitial Monitoring and Secondary Containment

Interstitial Monitoring is a form of release detection that is used on tank systems with secondary containment. Secondary containment means that a layer of material that does not allow any liquid out is installed around a tank or system of tanks. This layer prevents any fuel which may be released from a tank from reaching the environment for the period of time necessary to detect and recover the released fuel. Materials or equipment used to provide a secondary containment may include concrete, liners, double-wall tanks, sumps, etc.

Interstitial Monitoring



A double-wall tank is technically two tanks-in-one (a tank inside of a tank). There is the inner tank (wall) and the outer tank (wall) as shown in the drawing. The space between the two tanks is called the interstitial (annular) space. This space is what is monitored on a monthly basis to perform release detection.

Interstitial Monitoring



There are three ways that interstitial monitoring on tanks can be performed:

- Using a dipstick to look at a dry interstitial space. Any liquid indicates a release has occurred.

Interstitial Monitoring



There are three ways that interstitial monitoring on tanks can be achieved:

- Using an electrical interstitial probe connected to an alarm and/or Automatic Tank Gauge in the store which looks for the presence of liquid. Some probes can tell the difference between fuel and water. Others cannot. Therefore, all alarms have to be investigated.

Interstitial Monitoring



There are three ways that interstitial monitoring on tanks can be achieved:

- Having an interstitial space filled with brine and using a site gauge to measure levels of brine. As long as the level of brine stays within the acceptable level, no leak has occurred.

Interstitial Monitoring

When using Interstitial Monitoring for release detection on tanks, monitoring should occur at least once a month, every month. At a minimum, a written log indicating that the interstitial space was monitored at least once every 30 days must be kept.


MONTHLY VISUAL SUMP MONITORING

- Use this form to record results of visual inspections of each sump at the facility once each month.
- A separate form should be used for each facility. Indicate the year this form is for in the space provided.
- The front of this form has space for six sumps. If there are more than six sumps at this facility, use the back of this form.
- If no liquid is present, mark OK in the appropriate column and row.
- If there is liquid present, note it in the appropriate column and indicate the action taken. Remove any liquid in the sump and dispose of it properly.
- Maintain the last 12 months of these inspections and have them available for state inspection.

UST FACILITY INFORMATION

Name:	Facility ID #:	Year:
Address:	City:	Zip:

Date Checked	Sump # 1	Sump # 2	Sump # 3	Sump # 4	Sump # 5	Sump # 6	Action taken if Sump not ok	Initials


South Carolina Department of Health
and Environmental Control

Interstitial Monitoring

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MAY 14, 2008 10:44
LIQUID STATUS
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MAY 14, 2008 10:44

L 1:REG-1 INTERSTITIAL
SENSOR NORMAL

L 2:REG-2 INTERSTITIAL
SENSOR NORMAL

L 3:REG 12K STP SUMP
SENSOR NORMAL

L 4:REG 4K STP SUMP
SENSOR NORMAL

L 5:PREM 8K STP SUMP
SENSOR NORMAL

L 6:DISPENSER SUMP 1-2
SENSOR NORMAL

L 7:DISPENRER SUMP 3-4
SENSOR NORMAL

L 8:DISPENSER SUMP 5-6
SENSOR NORMAL

L 9:DISPENSER SUMP 7-8
SENSOR NORMAL

***** END *****
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Automatic Tank Gauges are often used in conjunction with sensors for interstitial monitoring and can print, collect and store monitoring information. This sample shows a perfect example of what should be kept on file for each month. There should be twelve months of monitoring records on file at all times.